

R E M A R K S

Claims 1-52 are pending. By this Response, claims 2-31 and 33-43 are amended and new claim 55 is added.

The Office Action points out that the list of references in the specification is not a proper IDS. Attached hereto is an Information Disclosure Statement submitting the references listed in the specification.

The Office Action objects to the disclosure because of missing headings. The specification has been amended to insert the missing headings. Approval is requested.

The Office Action also indicates that in page 24, line 27 there is an unclear recitation in the specification. The specification has been amended as suggested by the Examiner. Approval is requested.

The Office Action objects to claim 22 because of an informality. Claim 22 has been amended to add a period at the end of the claim. Withdrawal of the objection is requested.

The Office Action rejects claims 28 and 51 under 35 U.S.C. 112, first paragraph, asserting that the specification is not enabling for the monitoring of a bias signal voltage. This rejection is respectfully traversed.

The Office Action admits that the specification mentions monitoring bias voltage, but asserts that the monitoring of voltage and the monitoring of current are considered sufficiently distinct that it would require undue experimentation to apply the methods of the present specification to the monitoring of a bias voltage. It is respectfully asserted that one of ordinary skill in the art can easily monitor a bias voltage, especially when the monitoring of the bias current is acknowledged to be enabled by the Office Action. One of ordinary skill in the art can easily measure a bias voltage, and it is submitted that undue experimentation would not be required to do so. Such monitoring of bias voltage is rudimentary and well known to those of skill in the art.

The Office Action rejects claims 42-45 under 35 U.S.C. 112, second paragraph as being indefinite. Claim 44 has been amended to obviate this rejection. Withdrawal of the rejection is requested.

The Office Action rejects claims 1-3, 13, 27, 29-32, 34-35, 41 and 50 under 35 U.S.C. 103 over Lingren (USP 5,786,597). This rejection is respectfully traversed.

Claim 1 recites bias signal monitoring means for monitoring a bias signal applied to said first conductive layer for determining radiation incident on said image element detector. The Office Action asserts that this element is shown by Lingren. As further explained below, Lingren does not show this novel feature.

The invention of claim 1 includes the bias monitoring means for monitoring a bias that is input to the imaging device (the conductive layer) to determine radiation incident on said image element detector. The present invention has arisen from the realization that observing a bias signal (either current or voltage, where if the voltage is held constant, the current will vary in dependence on the amount of charge stored by the detector) to provide an indicator of the radiation incident on the detector, and that this can be used to control readout of charge from the detector, as described, *inter alia*, at page 4, line 29 to page 5, line 2 and at page 18, lines 20-23.

In contrast, the imaging device described in Lingren includes a detector element 212 that generates charge at the low amplitude electrical pulse, as described at column 13, lines 64-65, column 14, lines 29-31 and column 16, lines 45-46, which is received by analog ASIC 700 and assessed by ASIC 800, for a "valid hit", as described at column 16, line 54 through column 17, line 4 and column 17, lines 37-49, together with column 18, lines 33-38. The address within detector 206 corresponding to a detector element that has received a "valid hit" is sent to the signal processor, as described on column 18, lines 18-32 and lines 33-38, and the signal processor assesses data corresponding to that address, so as to retrieve data indicative of the hit and to reset the line corresponding to the detector element, as described at column 17, lines 47-48 and column 18, lines 48-54.

Thus, the only assessment of signals for the purpose of determining radiation incident on the imaging device is in respect to output from the detector elements (see, for further clarification, column 14, lines 28-30, column 16, lines 44-47 and column 18, lines 33-38).

In terms of monitoring a bias signal, it is noted that the only mention of measuring the bias signal applied to detector elements 212 in Lingren can be found at column 22, lines 60-67. This passage describes the DAC 356, regulator 358 and the DC/DC converter 360 interoperating so as to provide a regulated voltage source of the bias voltage, and thereby to maintain the operating bias at a desired value. There is no mention of monitoring the bias to determine the radiation incident on the imaging device, and indeed, since this passage only describes monitoring bias voltage, which is intended to be kept at a constant value, there is no motivation for monitoring the bias signal for the purpose of determining incident radiation.

It is also noted that in Lingren, incident radiation is determined from a "valid hit" which is ascertained solely from signals generated by (output from) the detection elements 212. Therefore, insofar as Lingren describes determining incident radiation, it teaches away from the arrangement forming the subject matter of claim 1 of the present application. Claim 1 is thus valid and not anticipated by Lingren. Accordingly, Applicants request withdrawal of the rejection of the claims under 35 U.S.C. 102. The above remarks also apply to new claim 52.

For at least the above reasons, it is submitted that the application is in condition for allowance. Prompt consideration and allowance are solicited.

The Office is authorized to charge any fees due under 37 C.F.R. §1.16 or 1.17 to Deposit Account No. 11-0600.

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Should there be any questions, the Examiner is invited to contact Applicants' undersigned attorney.

Respectfully submitted,



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